Flowcrete
for the world at your feet

Flowshield ESD SL (2mm)

An antistatic, hard-wearing, low odour, self-smoothing gloss finish epoxy floor coating.

For use in medium to heavy duty traffic areas where conductive ESD standards are required.



Low Odour:
Compliant with Green Star Design & As Built V1.2-13.1.1B, Green Star Interiors V1.2-12.1.1B

Antistatic:
Meets IEC 61345-5-1 requirements.

Low Maintenance:
Seamless, hygienic finish, which requires low maintenance.

Durable:
Hard wearing, durable and abrasion resistant.

Chemical Resistant:
Protects against a majority of acids used in manufacturing processes.

Technical Profile

FIRE RESISTANCE - AS/ISO 9239.1			
CHF Value	6.6 kW/m²		
Smoke Value	398% (Mean)		
SLIP RESISTANCE*			
Method described in AS4586-2013	P1		
THERMAL RESISTANCE			
Softens over 60°C			
WATER PERMEABILITY			
Karsten Test Nil (Impermeable)			
ABRASION RESISTANCE			
Taber Abrader (1 kg load using CS17 wheels)	80 mg loss per 1000 cycles		
COMPRESSIVE STRENGTH			
EN 13892-2	60 N/mm²		
FLEXURAL STRENGTH			
EN 13892-2	40 N/mm²		
TENSILE STRENGTH			
EN 13892-2	25 N/mm²		
BOND STRENGTH			
ASTM D4541 (Pull-Off Test)	>1.5MPa*		
ELECTRICAL RESISTANCE			
IEC 61345-5-1	< 1 x 10⁹ Ω		
SPEED OF CURE**	**10°C**	**20°C**	**30°C**
Foot Traffic	36 h	24 h	16 h
Vehicular Traffic	72 h	48 h	36 h
Full Chemical Cure	12 d	7 d	7 d

N.B

*Assume concrete or substrate is a minimum of 25 N/mm².

**These figures are typical properties achieved in laboratory tests at 20°C and at 50% Relative Humidity.

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Available Colours

Solid colour finishes available to match all AS2700 and RAL colours. Please refer to our Solid Colour Finishes Colour Guide or reach out to your Flowcrete Pacific representative for more information.

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Coving

Coving can form an integral part of the flooring system. It creates a sealed finish between the floor and wall joint. Please refer to Flowtex F1 Coving Mortar for further information.

Substrate Requirements

Concrete or screed substrate should be a minimum of 25 N/mm^2, free from laitance, dust and other contamination. Substrate should be dry to 75% RH as per ASTM F2170 (AS1884:2012) and free from rising damp and ground water pressure. Application of a 1mm self-smoothing product also requires a smooth substrate. Slab on ground concrete must have an effective damp proof membrane in place.

Installation Service

The installation should be carried out by a qualified contractor with a documented quality assurance scheme. For details of our recommended contractors, contact your local Flowcrete Pacific representative.

Environmental Considerations

The finished system is assessed as non-hazardous to health and the environment. The long service life and seamless surface reduce the need for repairs and maintenance. Environmental and health considerations are controlled during manufacture of the products by Flowcrete staff.

Aftercare, Cleaning & Maintenance

Clean regularly using a single or double headed rotary scrubber drier in conjunction with a mildly alkaline detergent. Please refer to Flowcrete's Cleaning & Maintenance Guide for further information.

Warranty

Flowcrete products are guaranteed against defective materials and manufacture and are sold subject to our standard 'Warranty, Terms and Conditions of Sale', copies of which can be obtained on request. Warranty does not cover suitability, fit for purpose or any consequential or related damages. Please review warranty in detail before installing the products.

Safety Precautions

Wear appropriate Personal Protective Equipment (PPE) including but not limited to masks, gloves, eye protection and protective clothing during mixing and application. Ensure the working area is well ventilated and follow the appropriate Health and Safety guidelines applicable to the location where the application is undertaken and inconjunction with material safety data sheets.

Important

This specification assumes a concrete compressive strength greater than 25 N/mm^2, application and curing temperatures of 5–35°C, the presence of an effective damp proof membrane below substrate and concrete moisture content less than 75% RH. If moisture content is above 75% RH, please contact Flowcrete Pacific representatives.

This specification must be read in conjunction with relevant product technical data sheets and the application of all materials is to be strictly in accordance with manufacturer's instructions.

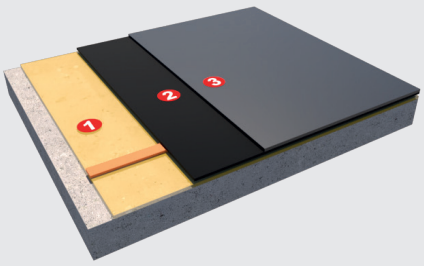
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Model Specification

System	Flowshield ESD SL
Finish	Gloss
Thickness	2mm
Manufacturer	Tremco CPG Australia Pty Ltd
Contact	1800 318 038

Preparatory work and application in accordance with manufacturer's instructions.

System Design



Products Included In This System

Layer 1	Flowprime AU
	Flowprime AU *For porous substrates only
	Conductive grid of 12mm wide Conductive Tape
Layer 2	Flowprime ESD Conductive
Layer 3	Flowshield ESD SL

Manufacturer Details

Manufacturer	Tremco CPG Australia Pty Ltd
Address	12/4 Southridge Street
Suburb	Eastern Creek
State	NSW
Postcode	2766
Telephone	1800 318 038
Email	flowcrete@tremco.com.au

Outline for Installation

Mechanically Prepare Substrate	
Apply Flowprime AU	@ 0.2kg/m²
Apply Flowprime AU *For porous substrates only	@ 0.2kg/m²
Apply Flowprime AU ESD Conductive	@ 0.08kg/m²
Apply Flowshield ESD SL	@ 3.6kg/m²

Storage

Time	12 Months in Unopened Packs. If longer than 12 Months consult Flowcrete.
Temperature	Storage temperature between 5°C and 35°C.
Protection	Should be stored inside and protected from frost, weather, moisture, direct sunlight and contamination ingress.

Material Set-Up

Before commencing work ensure that your material is set-up by separating all components (e.g. Base A, Hardener B, Filler C etc.) to ensure that all material is correct. Check product labels and ensure there are equal amounts of product.

Site Set-Up

Before commencing work ensure that your site is set-up. Mark the floor according to the specification with masking tape or similar to clearly identify what area (m²) each unit will cover. If this is not achieved (greater or less consumption than the specified amount) immediately stop and contact Flowcrete.

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Application Equipment

The use of correct application equipment is critical as incorrect application tools can result in poor finishing and incorrect material consumption. Always test the application equipment prior to commencing work.

The following equipment is recommended for this application.



10-12mm Nap Roller
*Do not use Microfibre



Spike Shoes



Slow Speed Drill with Helical Mixer Head



Squeegee



Flat & Notched Steel Trowel



Spike Roller



Pin Rake

Surface Preparation

Concrete should be finished by steel trowel. Surface preparation is to be completed by totally enclosed light shot blasting (please note this may leave track and blast lines which will not be covered) or diamond grinding to a minimum CSP3 prior to any coating application. For proper methods, refer to ICRI's Technical Guideline No. 03732. All cementitious laitance must be removed to expose a sound substrate and provide a dry, dust free, open textured surface. All hard to reach areas and areas around the perimeter must be prepared using hand held preparation equipment.

Any damaged areas must be repaired with Flowtex F1 mortar. Consult Flowcrete prior to using an alternative repair mortar. Any rough or uneven areas must be made smooth with Flowcoat SC.

Application Temperature

The recommended material and substrate temperature is 5 - 35°C, but no less than 5°C. The temperature of the substrate should exceed the "dew point" by 3°C during application and hardening.

Temperatures should not fall below 10°C in the 24hrs after application.

Application / Pot Life

Ready-mixed product should be used within 30 minutes at a temperature of 20°C. At higher temperatures (or if left in bucket) the application time is shorter.

Decant mixed product into smaller quantities if applying small/detailed areas.

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Application of Flowprime AU

The substrate must be surface dry before the application of Flowprime AU.

1. Mixing Flowprime AU
Stir Base A to re-disperse any settlement. Decant required amount of Base A into a clean container by weight using digital scales.

Add required amount of Hardener B to the decanted Base A container, and drain thoroughly. Mix with a slow speed drill and helical spinner head for 1 minute, taking care not to entrain air. Add between 2 - 7% Xylene (if required depending on conditions) and mix for a further 30 seconds.

2. Application
Immediately after mixing, apply the Flowprime AU by squeegee and/or roller.

Application of Conductive Tape

Lightly abrade the primed surface, apply self-adhesive copper tape as required for earthing points as per FIG. 1, and then apply the coat of Flowprime ESD Conductive.

A network of 12 mm wide, self-adhesive, conductive copper tape is always recommended in combination with any Flowcrete antistatic flooring system. The copper tape must be applied directly onto the cured Flowprime AU, maximum 1 metre in from the perimeter of the application.

Further, strips of tape should be applied within this area every 3 metres. Special attention should be paid to tape areas passing over expansion or bay joints to ensure permanent electrical continuity. The applied tape should be secure and fully bonded to a confirmed earth point. Conductive tape grid should terminate at Flowcrete Earthing Kit.

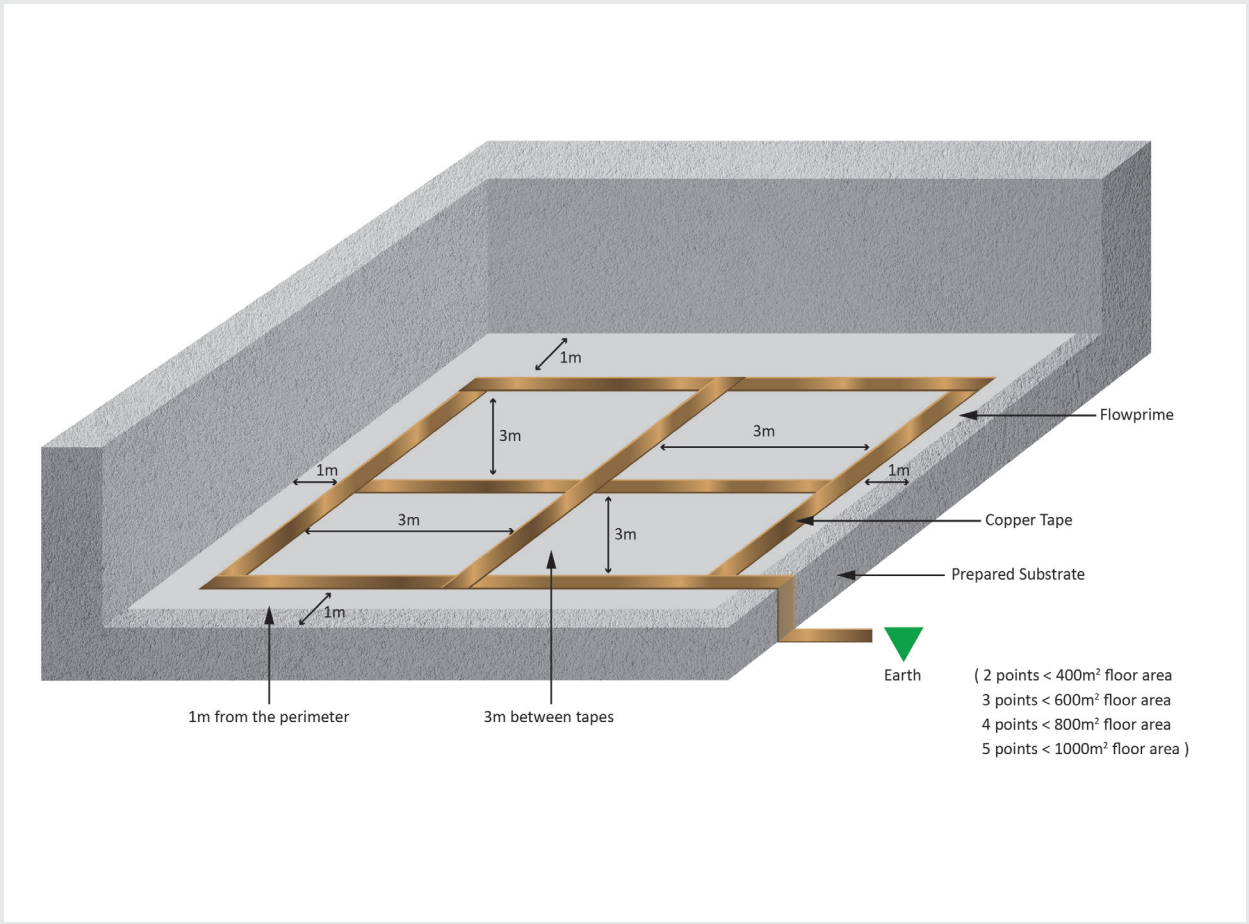


FIG. 1 Conductive Tape Grid

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Application of Flowprime ESD Conductive

The previous coat must be surface dry before the application of Flowprime ESD Conductive.

The Flowprime ESD Conductive must be applied within 24 hours at 20°C following the application of Flowprime AU.

1. Mixing Flowprime ESD Conductive

Pre-mix the Hardener B in a clean mixing container using a slow speed drill and helical spinner head for 20 seconds, taking care not to entrain air.

Agitate the pigment pack and add to the Hardener B and mix for 20 seconds. Add the Base A into the mixture and mix for a minimum of 120 seconds until the mixture is uniform using a slow speed drill and helical spinner head.

2. Application

IImmediately after mixing, spread Flowprime ESD Conductive using a squeegee and finish with a roller. Allow to become tack free (typically 7-15 hours, dependent on temperature).

Testing

Before applying the Flowshield ESD SL, the Flowprime ESD Conductive must be tested to ensure the correct ESD properties have been achieved.

After 24hours curing measure the conductivity with Megger MIT 481 (or equivalent). Flowprime ESD Conductive when tested have an average resistance less than 2.0 kilo Ohms (2.0 X 10^3 Ohms) with no individual measurement's value more than 2.0 kilo Ohms (2.0 X 10^3 Ohms).

Application of Flowshield ESD SL

The previous coat must be surface dry before the application of Flowshield ESD SL. Flowshield ESD SL must be applied after 24 hours at 20°C following the application of Flowprime ESD Conductive.

1. Mixing

Pre-mix the Multi Pack Base A to re-disperse any settlement. Add Pigment to the Base A and mix for 30 seconds. Add the Flowshield ESD SL Filler D and mix until thoroughly and homogeneously dispersed. Add the Multi Pack Hardener B to the mixing vessel. Mix with a slow speed drill (maximum 450rpm) and helical spinner head for 20 seconds taking care not to entrain air. Add the Flowshield ESD SL Filler C and continue to mix for a maximum time of 120 seconds. Take care not to entrain air.

2. Application

Immediately after mixing, apply the Flowshield ESD SL by pin rake and/or notched and/or flat steel trowel to the required thickness. It is important that the material is applied to the specified coverage rate, over applying the material can negatively effect the ESD properties.

10-15 minutes later, dependent on temperature, the surface should again be lightly rolled with a spiked roller to remove air from the surface, taking care not to disturb the filler settlement. Allow to cure.

Testing

Allow the Flowshield ESD SL to cure for 48 hours at 20°c prior to testing. Refer to Flowcrete ESD Testing Information Sheet.

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Cleaning

Tools and equipment can be cleaned with MEK/Acetone/Xylene. Please refer to SDS when using solvents.

Trafficking

Allow to cure for 24 hours at a minimum of 10°C before light trafficking.

Note

When printed or saved externally, this document is uncontrolled and therefore may not be the latest version. Any recommendation or suggestion relating to the use of the products made by Tremco CPG Australia Pty Ltd. [Tremco], whether in its technical literature, or in response to a specific enquiry, or otherwise, is based upon data believed to be reliable, however the products and information are intended for use by Customers having requisite skill and know-how in the industry and therefore it is for the Customer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that the Customer has done so at its sole discretion and risk.

Additional Notes

1. Maximum overcoat time is 24 hours at 20°C.
2. The product has reached full chemical cure after 7 days at 20°C.
3. The applied colours may differ from the examples shown.
4. Light and vibrant colours may require additional coats to achieve desired results. Tremco assumes no responsibility for the application of incorrect colour.
5. It is the applicators responsibility to verify accuracy of colour prior to application.
6. Tremco does not bear any responsibility or accept claims for incorrect colour after application of material. It is recommended that top coat colours match base coat colours to achieve desired results.
7. This system is not UV stable and will discolour unless otherwise stated.
8. This system should have no contact with water for 5 days at 20°C or blooming may occur.
9. This system should be installed at 3°C above the dew point.
10. A low temperature/high humidity environment can cause blooming issues.
11. Please ensure application temperature and RH limits are followed.
12. Wind or strong airflow may cause quick curing and drying of the system.
13. Ensure wind or strong airflow is eliminated during application, however adequate safety ventilation should still be followed.
14. Direct heat during application of the system can cause flash curing and potential delamination. Ensure you do not apply this system to substrates with temperatures exceeding 35°C.
15. The specific slip test rating (P0-P5 range) noted in this document is based on the system design, products listed, coverage rates and specific aggregate outlined in this document. This slip test rating can and will change if the standard specification details or installation methods are altered in any way. The specific slip rating (P0-P5 range) noted in this document is based on 96 Rubber slide testing on level non-inclined surfaces. Applicators should refer to methods outlined in AS4586-2013 and SA HB 198:2014.

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